=> file reg
FILE 'REGISTRY' ENTERED AT 16:40:56 ON 15 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 14 APR 2004 HIGHEST RN 675571-70-7
DICTIONARY FILE UPDATES: 14 APR 2004 HIGHEST RN 675571-70-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> file caplus
FILE 'CAPLUS' ENTERED AT 16:41:01 ON 15 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 15 Apr 2004 VOL 140 ISS 16
FILE LAST UPDATED: 14 Apr 2004 (20040414/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> file wpix
FILE 'WPIX' ENTERED AT 16:41:13 ON 15 APR 2004

FILE LAST UPDATED: 8 APR 2004 <20040408/UP>
MOST RECENT DERWENT UPDATE: 200424 <200424/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

=> d que l127
L77 (15)SEA FILE=REGISTRY ABB=ON PLU=ON (1333-74-0/BI OR 229011-78-3/BI OR 404965-31-7/BI OR 427892-92-0/BI OR 427892-93-1/BI OR 427892-94-2/BI OR 427892-95-3/BI OR 50944-38-2/BI OR 58874-73-0/BI OR 7439-88-5/BI OR 7440-02-0/BI OR 7440-05-3/BI OR 7440-06-4/BI OR 7440-16-6/BI OR 7440-48-4/BI OR 1333-74-0/BI OR 229011-78-3/BI OR 404965-31-7/BI OR 427892-92-0/BI OR 427892-93-1/BI OR 427892-94-2/BI OR 427892-95-3/BI OR 50944-38-2/BI OR 58874-73-0/BI OR 7439-88-5/BI OR 7440-02-0/BI OR 7440-05-3/BI OR 7440-06-4/BI OR 7440-16-6/BI OR 7440-48-4/BI)
L78 (1)SEA FILE=REGISTRY ABB=ON PLU=ON 1333-74-0
L79 (8)SEA FILE=REGISTRY ABB=ON PLU=ON MG AND L77
L80 (8)SEA FILE=REGISTRY ABB=ON PLU=ON (427892-95-3 OR 427892-94-2 OR 427892-93-1 OR 427892-92-0 OR 404965-31-7 OR 229011-78-3 OR 58874-73-0 OR 50944-38-2)
L81 (6)SEA FILE=REGISTRY ABB=ON PLU=ON SC AND L80
L82 (1)SEA FILE=REGISTRY ABB=ON PLU=ON 404965-31-7
L83 (923285)SEA FILE=CAPLUS ABB=ON PLU=ON L78 OR H2 OR HYDROGEN
L84 (250277)SEA FILE=CAPLUS ABB=ON PLU=ON (STORE OR STORAGE OR CONTAIN? OR HOLD? OR VESSEL? OR CRUCIBLE?) AND L83
L85 (2474)SEA FILE=CAPLUS ABB=ON PLU=ON SCANDIUM(5A)MAGNESIUM OR SC(3A)MG
L86 (4)SEA FILE=REGISTRY ABB=ON PLU=ON 7440-05-3 OR 7440-06-4 OR 7440-48-4 OR 7440-02-0
L87 (6)SEA FILE=REGISTRY ABB=ON PLU=ON L79 AND L81
L88 (2474)SEA FILE=CAPLUS ABB=ON PLU=ON L85 OR L87
L89 (51)SEA FILE=CAPLUS ABB=ON PLU=ON SCANDIUM(4A)MAGNESIUM(4A)HYDRIDE OR L82 OR SC(3A)MG(3A)H
L90 (2)SEA FILE=REGISTRY ABB=ON PLU=ON 7440-16-6 OR 7439-88-5
L91 (1)SEA FILE=REGISTRY ABB=ON PLU=ON CHROMIUM/CN

L92 (1) SEA FILE=REGISTRY ABB=ON PLU=ON MOLYBDENUM/CN
L93 (4) SEA FILE=REGISTRY ABB=ON PLU=ON L91 OR L92 OR L90
L94 (250277) SEA FILE=CAPLUS ABB=ON PLU=ON L83 AND L84
L95 (15) SEA FILE=CAPLUS ABB=ON PLU=ON L94 AND (L89 OR L85 OR L89 OR L88) AND (L86 OR L93)
L96 (11021) SEA FILE=CAPLUS ABB=ON PLU=ON ELECTROCHEMICAL? AND L94
L97 (1) SEA FILE=CAPLUS ABB=ON PLU=ON L96 AND (L89 OR L85 OR L89 OR L88) AND (L86 OR L93)
L98 (5967) SEA FILE=CAPLUS ABB=ON PLU=ON BATTER? AND L94
L99 (2) SEA FILE=CAPLUS ABB=ON PLU=ON L98 AND (L89 OR L85 OR L89 OR L88) AND (L86 OR L93)
L100(15) SEA FILE=CAPLUS ABB=ON PLU=ON L95 OR L97 OR L99
L101(4256387) SEA FILE=CAPLUS ABB=ON PLU=ON LAWRENCIUM OR LR OR NEPTUNIUM OR NP OR URANIUM OR U OR NOBELIUM OR NO OR MENDELEVIUM OR MD OR FERMIUM OR FM OR EINSTEINIUM OR ES OR CALIFORNIUM OR CURIUM OR CM OR AMERICIUM OR AM OR PLUTONIUM OR PU OR BERKELIUM OR BK OR PROTACTINIUM OR PA OR ACTINIUM OR AC OR THORIUM OR TH
L102(1) SEA FILE=REGISTRY ABB=ON PLU=ON CHROMIUM/CN
L103(1) SEA FILE=REGISTRY ABB=ON PLU=ON MOLYBDENUM/CN
L104(2) SEA FILE=REGISTRY ABB=ON PLU=ON 7440-16-6 OR 7439-88-5
L105(4) SEA FILE=REGISTRY ABB=ON PLU=ON 7440-05-3 OR 7440-06-4 OR 7440-48-4 OR 7440-02-0
L106(6) SEA FILE=REGISTRY ABB=ON PLU=ON L79 AND L81
L107(45923) SEA FILE=REGISTRY ABB=ON PLU=ON ACTN/PG
L108(250307) SEA FILE=CAPLUS ABB=ON PLU=ON L83 AND L84
L109(2474) SEA FILE=CAPLUS ABB=ON PLU=ON L85 OR L106
L110(51) SEA FILE=CAPLUS ABB=ON PLU=ON SCANDIUM(4A)MAGNESIUM(4A)HYDRIDE OR L82 OR SC(3A)MG(3A)H
L111(2474) SEA FILE=CAPLUS ABB=ON PLU=ON L109 OR L110
L112(671343) SEA FILE=CAPLUS ABB=ON PLU=ON (L102 OR L103) OR (L104 OR L105)
L113(185549) SEA FILE=CAPLUS ABB=ON PLU=ON L107
L114(16) SEA FILE=CAPLUS ABB=ON PLU=ON (L113 OR L112) AND L111 AND L108
L115(1) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND ?CHEMICAL?
L116(16) SEA FILE=CAPLUS ABB=ON PLU=ON L114 OR L100
L117(2) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND METAL?(5A)BATTER?
L118(2) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND BATTER?
L119(14) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND MAGNESIUM?
L120(1) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND HYDRIDE?
L121(1) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND ELECTROCHEM?
L122(1) SEA FILE=CAPLUS ABB=ON PLU=ON L114 AND STOR?
L123(16) SEA FILE=CAPLUS ABB=ON PLU=ON (L115 OR L116 OR L117 OR L118 OR L119 OR L120 OR L121 OR L122)
L124(4) SEA FILE=WPIX ABB=ON PLU=ON (ELECTROCHEM? OR BATTER?) AND SCANDIUM(3A)MAGNESIUM? AND (H2 OR HYDROGEN)(5A)STORAGE AND (L101 OR PALLADIUM OR PD OR PT OR PLATINUM OR COBALT OR CO OR NI OR NICKEL OR RHODIUM OR RH OR IR OR IRIDIUM OR CO OR COBALT OR MOLYBDENUM OR MO OR TUNGSTEN OR W)
L125(1) SEA FILE=CAPLUS ABB=ON PLU=ON (ELECTROCHEM? OR BATTER?) AND SCANDIUM(3A)MAGNESIUM? AND (H2 OR HYDROGEN)(5A)STORAGE AND (L101 OR PALLADIUM OR PD OR PT OR PLATINUM OR COBALT OR CO OR NI OR NICKEL OR RHODIUM OR RH OR IR OR IRIDIUM OR CO OR COBALT OR MOLYBDENUM OR MO OR TUNGSTEN OR W)
L126(16) SEA FILE=CAPLUS ABB=ON PLU=ON L125 OR L123

L127 19 DUP REM L126 L124 (1 DUPLICATE REMOVED)

=> d ti 1-19 l127
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, CAPLUS' - CONTINUE? (Y)/N:y

L127 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen** to fuel cells

L127 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Oxygen-scavenging polymeric **containers** with low haze

L127 ANSWER 3 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Composition of material used as catalyst for (de)hydrogenation reaction, involves milling specific substance with hydrogen source, mixing resulting intermediate with electronegative element and milling resulting mixture.

L127 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Promoting Effects of Some Metal Additives on the Methanol Synthesis Activity of Sulfided Pd/SiO2 Catalyst from Syngas **Containing** H2S

L127 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI **Metal hydride battery** material with high **storage** capacity

L127 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Method for production of **hydrogen** and apparatus for supply of same.

L127 ANSWER 7 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI **Hydrogen storage** material production for **battery** electrode materials involves oxidizing **hydrogen storage** powder with controlled oxidation reaction.

L127 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Procedure for repairing breaks and flaws in ceramic molded articles

L127 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Catalysts and method for manufacture of synthesis gas by cracking of methanol

L127 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride

L127 ANSWER 11 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI **Hydrogen storage** material for **nickel** hydride **battery** - comprises **nickel** , titanium and zirconium , **magnesium** , iron , lithium , and **scandium.**

L127 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of precursors for cerium oxide-zirconia-based mixtures, the

compositions obtained, their use for manufacturing catalysts for catalytic converters, and the catalysts obtained

L127 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Iron-antimony-**containing** metal oxide catalyst composition and process for producing the same

L127 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Hydrogen**-absorbing anodes

L127 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Antimony-iron-phosphorus-**containing** metal oxide catalysts

L127 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of ethanol from synthesis gas

L127 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Contact resistance to undoped and phosphorus-doped hydrogenated amorphous silicon films

L127 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Ohmic and quasi-ohmic contacts to hydrogenated amorphous silicon thin films

L127 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Apparatus for continuous monitoring of **hydrogen** or water vapor concentration in a gas

=> d all 1-19 l127
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, CAPLUS' - CONTINUE? (Y)/N:y

L127 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:20597 CAPLUS
DN 140:44256
ED Entered STN: 11 Jan 2004
TI Method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen** to fuel cells
IN Otsuka, Kiyoshi; Takenaka, Sakae; Nakamura, Kiyozumi; Iizuka, Kazuyuki
PA Uchiya Thermostat Co.,ltd., Japan
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C01B003-10
ICS C01B003-06
CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 52
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004002881	A1	20040108	WO 2003-JP6050	20030515

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI JP 2002-185563 A 20020626

AB A method for producing H involves contacting steam or a gas **contg** . steam with Fe or an Fe oxide, in which the Fe or the Fe oxide is added with ≥1 metal of Rh, Ir, Ru, Pd, Pt and Os and ≥1 metal of Ti, Zr, V, Nb, Cr, Mo, Al, Ga, **Mg**, **Sc**, Ni and Cu. The method provides a medium for generating H which is capable of generating H at a relatively low temperature and at a great generation rate, is free from the decrease of activity, and is resistant to repeated oxidation and reduction, which leads to the decomposition of H2O and production of H with good efficiency.

ST fuel cell **hydrogen** water decompn catalyst steam metal iron

IT Decomposition catalysts
Fuel cells
Steam
(method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen**)

IT Metals, uses
RL: CAT (Catalyst use); NUU (Other use, unclassified); USES (Uses)
(method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen**)

IT 1332-37-2, Iron oxide, uses 7429-90-5, Aluminum, uses **7439-88-5**, Iridium, uses 7439-89-6, Iron, uses 7439-95-4, **Magnesium**, uses **7439-98-7**, Molybdenum, uses **7440-02-0**, Nickel, uses 7440-03-1, Niobium, uses 7440-04-2, Osmium, uses **7440-05-3**, Palladium, uses **7440-06-4**, Platinum, uses **7440-16-6**, Rhodium, uses 7440-18-8, Ruthenium, uses 7440-20-2, Scandium, uses 7440-32-6, Titanium, uses **7440-47-3**, Chromium, uses 7440-50-8, Copper, uses 7440-55-3, Gallium, uses 7440-62-2, Vanadium, uses 7440-67-7, Zirconium, uses
RL: CAT (Catalyst use); NUU (Other use, unclassified); USES (Uses)
(method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen**)

IT 7732-18-5, Water, processes
RL: EPR (Engineering process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen**)

IT **1333-74-0P**, **Hydrogen**, preparation
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PUR (Purification or recovery); PREP (Preparation); USES (Uses)
(method for producing **hydrogen** by water decomposition and apparatus for supplying **hydrogen**)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Babcock-Hitachi Kabushiki Kaisha; JP 57-048343 A 1982 CAPLUS
(2) Babcock-Hitachi Kabushiki Kaisha; JP 57-095803 A 1982 CAPLUS
(3) Iseki & Co Ltd; JP 03-267558 A 1991 CAPLUS
(4) Iseki & Co Ltd; JP 04-100518 A 1992 CAPLUS
(5) Saban S A Societe Holdings; JP 30-871 B1 1955
(6) Uchiya Thermostat Kabushiki Kaisha; WO 02081368 A1 2002 CAPLUS

L127 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:155106 CAPLUS
DN 138:189070
ED Entered STN: 28 Feb 2003
TI Oxygen-scavenging polymeric **containers** with low haze
IN Tung, Deborah; Sisson, Edwin A.; Leckonby, Roy A.
PA USA
SO U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of U. S. Ser. No. 916,671.
CODEN: USXXCO
DT Patent
LA English
IC ICM C08L001-00
NCL 524434000
CC 38-3 (Plastics Fabrication and Uses)
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003040564	A1	20030227	US 2002-195385	20020716
	US 2003027912	A1	20030206	US 2001-916671	20010726
PRAI	US 2001-916671	A2	20010726		

AB Titled **container**, such as trays or bottles, with sidewall thickness of 11-25 mils and Hunter haze value ≤10 % has at least one wall, which comprises a populated area composed of a film-forming polymer, such as PET, PBT and PEN linear polyester, a population of particles **containing** effective amount of oxygen-scavenging particles choosing from Ca, **Mg**, **Sc**, Ti, V, Cr, Mn, Fe, co, Ni, Cu, Ag, Zn, Sn, Al, Sb, Ge, Si, Pb, Cd, and Rh, and, optionally, reaction-enhancing particles **containing** hydroscopic materials, electrolytic acidifying agent, non-electrolytic acidifying agents, metal halides, metal sulfates, and metal bisulfates, and other additives, such as impact modifiers, surface lubricants, denesting agents, stabilizers, antioxidants, etc.; the number of particles does not exceed a concentration of (6 + 107 particles/T) per cm3 of polymer, wherein T is the thickness of the populated area in mils. Thus, PET was mixed with 2.5 weight% **hydrogen**-reduced sponge iron particles, dried, blow-molded, reheated to 325°F and set at -40°F to obtain bottle preforms, which was then used to produce bottles in a two-step process with Fe concentrate of 1250 ppm and haze of 7.56 %.
ST oxygen scavenging metal particle polyester low haze **container**; iron oxygen scavenging PET blow molding bottle
IT **Containers**
(multilayer; oxygen-scavenging polymeric **containers** with low haze)
IT **Containers**
(oxygen-impermeable; oxygen-scavenging polymeric **containers** with low haze)
IT Bottles

Plates
(oxygen-scavenging polymeric **containers** with low haze)

IT Polyesters, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(oxygen-scavenging polymeric **containers** with low haze)

IT Halides
Sulfates, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reaction-enhancing particles; oxygen-scavenging polymeric **containers** with low haze)

IT 7429-90-5, Aluminum, uses 7439-92-1, Lead, uses 7439-95-4, **Magnesium**, uses 7439-96-5, Manganese, uses **7440-02-0**, Nickel, uses **7440-16-6**, Rhodium, uses 7440-20-2, Scandium, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-32-6, Titanium, uses 7440-36-0, Antimony, uses 7440-43-9, Cadmium, uses **7440-47-3**, Chromium, uses **7440-48-4**, Cobalt, uses 7440-50-8, Copper, uses 7440-56-4, Germanium, uses 7440-62-2, Vanadium, uses 7440-66-6, Zinc, uses 7440-70-2, Calcium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(oxygen-scavenging particles; oxygen-scavenging polymeric **containers** with low haze)

IT 9020-32-0 9020-73-9, Polyethylene naphthalate 24968-12-5, Polybutylene terephthalate 25038-59-9, PET polymer, uses 26062-94-2, Polybutylene terephthalate 26546-03-2, Polytrimethylene terephthalate, sru 26590-75-0, Polytrimethylene terephthalate 27289-84-5, Hipertuf 89010 144327-77-5, 2,6-Naphthalenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid and 1,4-butanediol 193543-40-7, 1,4-Benzenedicarboxylic acid, polymer with 1,4-butanediol and 1,3-propanediol
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(oxygen-scavenging polymeric **containers** with low haze)

IT 7439-89-6, Iron, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reduced sponge, carbonyl powdered; oxygen-scavenging polymeric **containers** with low haze)

L127 ANSWER 3 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2004-062712 [06] WPIX
DNC C2004-025786
TI Composition of material used as catalyst for (de)hydrogenation reaction, involves milling specific substance with hydrogen source, mixing resulting intermediate with electronegative element and milling resulting mixture.
DC J04
IN ZALUSKA, A; ZALUSKI, L; ZALUSKA, L
PA (ZALU-I) ZALUSKA A; (ZALU-I) ZALUSKI L; (ZALU-I) ZALUSKA L
CYC 102
PI WO 2004000453 A2 20031231 (200406)* EN 66p B01J023-00
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

CA 2389939 A1 20031225 (200412) EN B01J031-28

ADT WO 2004000453 A2 WO 2003-CA960 20030625; CA 2389939 A1 CA 2002-2389939 20020625

PRAI CA 2002-2389939 20020625

IC ICM B01J023-00; B01J031-28
ICS B01J037-00

AB WO2004000453 A UPAB: 20040123
NOVELTY - A substance chosen from metal or metalloid, their alloy or compound is combined with a hydrogen source, to form an intermediate (A). Intermediate (A) is milled to effect reaction between substance and hydrogen, to form intermediate (B). Intermediate (B) is combined with source of electronegative element to form intermediate (C). The intermediate (C) is then milled, to form composition of catalyst material.

DETAILED DESCRIPTION - A substance chosen from metal or metalloid, their alloy or compound, or homogeneous or inhomogeneous composition of metal or metalloid, their alloy or compound, is combined with hydrogen source, to form primary intermediate (A). The primary intermediate (A) is milled to effect reaction between substance and hydrogen, to form secondary intermediate (B). The secondary intermediate (B) is combined with source of electronegative element to form tertiary intermediate (C). The tertiary intermediate (C) is then milled to effect reaction between secondary intermediate (B) and electronegative element, to form composition of catalyst material. The metal or metalloid is chosen from lithium, sodium, potassium, beryllium, **magnesium**, calcium, yttrium, **scandium**, titanium, zirconium, hafnium, vanadium, niobium, tantalum, **platinum**, **palladium**, ruthenium, **rhodium**, germanium, gallium, indium, lanthanum, cerium, praseodymium, neodymium, aluminum, silicon, boron, chromium, **molybdenum**, **tungsten**, manganese, iron, **cobalt**, **iridium**, **nickel**, copper, silver, gold, zinc, tin, lead, antimony and bismuth. The electronegative element is chosen from oxygen, fluorine, nitrogen, chlorine, sulfur, phosphorus, carbon, tellurium and iodine.

An INDEPENDENT CLAIM is included for **hydrogen storage** composition.

USE - Used as a hydrogen transfer facilitator or catalyst for kinetics of hydrogenation and dehydrogenation reactions involving hydrogen transfer, including hydrogenation and dehydrogenation of compounds such as simple and complex metal hydrides, hydrocarbons and organic compounds, reforming of hydrocarbons, alcohols, polymerization, cracking and hydrolysis, **electrochemical** reactions including anodic and cathodic reactions, electrolysis of water and salts, reactions in fuel cells, and reduction/oxidation reactions.

ADVANTAGE - The novel composition of specific molecular structure, catalyzes and improves hydrogen transfer kinetics in various kinds of chemical reactions which depend on efficiency of hydrogen relocation or exchange.

Dwg.0/24

FS CPI

FA AB

MC CPI: J04-E04B; N06-E01

L127 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:557267 CAPLUS

DN 139:247721

ED Entered STN: 22 Jul 2003

TI Promoting Effects of Some Metal Additives on the Methanol Synthesis Activity of Sulfided Pd/SiO2 Catalyst from Syngas **Containing** H2S

AU Koizumi, Naoto; Murai, Kazuhito; Tamayama, Seiko; Ozaki, Toshihiko; Yamada, Muneyoshi

CS Department of Applied Chemistry, Graduate School of Engineering, Tohoku University, Sendai, 980-8579, Japan

SO Energy & Fuels (2003), 17(4), 829-835
CODEN: ENFUEM; ISSN: 0887-0624

PB American Chemical Society

DT Journal

LA English

CC 51-11 (Fossil Fuels, Derivatives, and Related Products)

AB A sulfided Pd/SiO2 catalyst was doped with various kinds of metal additives (M: Li, K, Cs, **Mg**, Ca, Sr, Ba, **Sc**, Y, La, Nd, Mn, Zn, or Al) and used for methanol synthesis from CO hydrogenation. The addition of Ca, Y, La, or Nd significantly improved the activity for methanol synthesis, and among these additives, Ca was the most effective additive. Besides, the methanol synthesis activity of the sulfided Pd/SiO2 doped with the Ca additive changed, depending on the preparation method of the precursor. The calcination of the precursor after impregnating with the Pd-**containing** solution was helpful for improving the methanol synthesis activity. The most active catalyst doped with the Ca additive yielded 720 g kg-cat-1 h-1 of methanol at 593 °K and 5.1 MPa, which was .apprx.50% of the space-time yield of methanol that is obtained with a com. Cu/Zn/Al catalyst at 593 °K and 5.1 MPa from a syngas **containing** CO2. Besides, even in the presence of H2S, the sulfided Pd/SiO2 catalyst doped with the Ca additive preserved 35% of the initial activity. The undoped catalyst showed a much lower methanol synthesis activity than the doped catalyst in the presence of H2S as well. Thus, even in the presence of a small amount of H2S in syngas, the Ca additive shows the promoting effect on increasing the methanol synthesis activity. In contrast with the sulfided catalysts, in the presence of H2S, the methanol synthesis activity of the Cu/Zn/Al catalyst decreased linearly with time onstream and eventually dropped to zero.

ST promoter metal methanol sulfided Pd SiO2 catalyst syngas H2S

IT Hydrocarbons, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(C>1; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT Hydrogenation
Hydrogenation catalysts
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT Synthesis gas
(synthetic; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 7439-91-0, Lanthanum, uses 7439-93-2, Lithium, uses 7439-95-4, **Magnesium**, uses 7439-96-5, Manganese, uses 7440-00-8, Neodymium, uses 7440-09-7, Potassium, uses 7440-20-2, Scandium, uses 7440-24-6, Strontium, uses 7440-39-3, Barium, uses 7440-46-2, Cesium,

uses 7440-65-5, Yttrium, uses 7440-70-2, Calcium, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst promoter precursor from nitrate, sulfided; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 62-54-4, Calcium acetate 10043-52-4, Calcium chloride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst promoter precursor; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 10124-37-5, Calcium nitrate
RL: RCT (Reactant); RACT (Reactant or reagent)
(precursor; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 7783-06-4, **Hydrogen** sulfide (H2S), reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(presulfidation reaction and contamination effects study; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT **1333-74-0**, **Hydrogen**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(presulfidation step, reduction, and hydrogenation; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 74-82-8P, Methane, preparation
RL: BYP (Byproduct); PREP (Preparation)
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 52276-39-8, Rhodium sulfide (Rh17S15)
RL: CAT (Catalyst use); USES (Uses)
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 124-38-9, Carbon dioxide, processes
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 115-10-6, Dimethyl ether
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 67-56-1P, Methanol, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 630-08-0, Carbon monoxide, reactions
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT **7440-05-3**, Palladium, uses 11113-77-2, Palladium oxide
RL: CAT (Catalyst use); USES (Uses)
(sulfided; promoting effects of some metal additives on methanol

synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 7631-86-9, Silica, uses
RL: CAT (Catalyst use); USES (Uses)
(support; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 7440-66-6, Zinc, uses
RL: CAT (Catalyst use); USES (Uses)
(with copper and aluminum, also catalyst promoter precursor from nitrate, sulfided; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 7429-90-5, Aluminum, uses
RL: CAT (Catalyst use); USES (Uses)
(with copper and zinc, also catalyst promoter precursor from nitrate, sulfided; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

IT 7440-50-8, Copper, uses
RL: CAT (Catalyst use); USES (Uses)
(with zinc and aluminum; promoting effects of some metal additives on methanol synthesis activity of sulfided Pd/SiO2 catalyst from syngas **containing** H2S)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Berg, M; Development in Thermochemical Biomass Conversion 1997, P1117 CAPLUS
(2) Chinchen, G; Appl Catal 1986, V25, P101 CAPLUS
(3) Gotti, A; J Catal 1998, V175, P302 CAPLUS
(4) Gusovius, A; Appl Catal A; General 1999, V188, P187 CAPLUS
(5) Ichikawa, M; Shokubai 1979, V21, P253
(6) Jahnek, F; PETROTECH 1999, V22, P11
(7) Kikuzono, Y; Chem Lett 1981, P1249 CAPLUS
(8) Koizumi, N; Chem Lett 2001, P1282 CAPLUS
(9) Koizumi, N; Prepr Pap-Am Chem Soc, Div Fuel Chem 2001, V46(2), P437 CAPLUS
(10) Lee, G; Catal Rev-Sci Eng 1987, V29(2&3), P183
(11) Matsumura, Y; J Catal 2001, V197, P267 CAPLUS
(12) Quarderer, G; EP 00119609 CAPLUS
(13) Rieck, J; J Catal 1986, V99, P278 CAPLUS
(14) Rieck, J; J Catal 1986, V100, P305 CAPLUS
(15) Santiesteban, J; Proc 9th Int Congr Catal 1988, V2, P561 CAPLUS
(16) Wood, B; Ind Eng Chem Res Dev 1980, V2, P33
(17) Yamada, M; Catal Lett 2002, V78, P195 CAPLUS
(18) Zhang, Y; Appl Catal A; General 1997; V158, P105 CAPLUS

L127 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

AN 2002:408973 CAPLUS
DN 136:388551
ED Entered STN: 31 May 2002
TI **Metal hydride battery** material with high **storage** capacity
IN Ouwerkerk, Martin; Janner, Anna-Maria; Notten, Petrus H. L.
PA Koninklijke Philips Electronics N.V., Neth.
SO PCT Int. Appl., 7 pp.

CODEN: PIXXD2
DT Patent
LA English
IC ICM H01M004-38
ICS C22C023-00
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002043170	A2	20020530	WO 2001-EP13409	20011119
	WO 2002043170	A3	20020829		
	W: CN, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	EP 1338044	A2	20030827	EP 2001-990422	20011119
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	US 2002122981	A1	20020905	US 2001-995457	20011127
PRAI	EP 2000-204211	A	20001127		
	WO 2001-EP13409	W	20011119		

AB Disclosed is a **hydrogen storage** material comprising a **magnesium-containing** intermetallic compound which can form a **hydride** with **hydrogen.** The intermetallic compound comprises an alloy of **magnesium** and a trivalent metal selected from the group of Sc, Y, La and the rare earth elements. Preferably, the intermetallic compound comprises a **scandium-magnesium** alloy. In an advantageous embodiment, the **hydrogen storage** material also comprises a catalytically active material. Furthermore, an **electrochem.** active material, as well as an **electrochem.** cell comprising the above **hydrogen storage** material are disclosed.

ST **battery** anode **magnesium** intermetallic **hydrogen** absorption alloy
IT **Battery** anodes
Secondary **batteries**
(**metal hydride battery** material with high **storage** capacity)
IT Intermetallic compounds
RL: DEV (Device component use); USES (Uses)
(**metal hydride battery** material with high **storage** capacity)
IT **7439-88-5**, **Iridium**, uses **7440-02-0**, **Nickel**, uses **7440-05-3**, **Palladium**, uses **7440-06-4**, **Platinum**, uses **7440-16-6**, **Rhodium**, uses **7440-48-4**, **Cobalt**, uses
RL: CAT (Catalyst use); USES (Uses)
(**metal hydride battery** material with high **storage** capacity)
IT 50944-38-2 58874-73-0 **229011-78-3 427892-92-0 427892-93-1 427892-94-2**
RL: DEV (Device component use); USES (Uses)
(**metal hydride battery** material with high **storage** capacity)
IT **404965-31-7**, **Magnesium scandium**

hydride
RL: FMU (Formation, unclassified); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(**metal hydride battery** material with high **storage** capacity)

IT **1333-74-0**, **Hydrogen**, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**metal hydride battery** material with high **storage** capacity)

IT **427892-95-3D**, **hydride**
RL: TEM (Technical or engineered material use); USES (Uses)
(**metal hydride battery** material with high **storage** capacity)

L127 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:793543 CAPLUS
DN 137:313076
ED Entered STN: 18 Oct 2002
TI Method for production of **hydrogen** and apparatus for supply of same.
IN Otsuka, Kiyoshi; Takenaka, Sakae; Nakamura, Kiyozumi; Iizuka, Kazuyuki
PA Uchiya Thermostat Co., Ltd., Japan
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C01B003-10
ICS C01B003-06
CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 51, 52
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002081368	A1	20021017	WO 2002-JP3257	20020401
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1386881	A1	20040204	EP 2002-708746	20020401
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRAI JP 2001-102845 A 20010402
WO 2002-JP3257 W 20020401

AB In title method for production of **hydrogen** by contacting water, steam or steam-**containing** gas with iron or iron oxide, in addition to iron or iron oxide, another metal (e.g., Ti, Zr, V, Nb, Cr, Mo, Al, Ga, **Mg**, **Sc**, Ni, Cu, etc.) is added thereto to provide a **hydrogen**-generating medium for increasing **hydrogen**

-generating reaction rate, preventing lowering of activity, and having durability in repeating of oxidation and reduction The produced **hydrogen** can be used for fuel cells, etc.

ST **hydrogen** prodn water iron contacting metal addn; steam iron contacting metal addn **hydrogen** prodn; oxide iron steam contacting metal addn **hydrogen** prodn; fuel cell **hydrogen** prodn steam iron contacting metal addn

IT Oxidation
Reduction
(method for production of **hydrogen** and apparatus for supply of same)

IT Fuel cells
Fuel gases
(method for production of **hydrogen** and apparatus for supply of same for)

IT Steam
(reactant; method for production of **hydrogen** and apparatus for supply of same)

IT 7429-90-5, Aluminum, uses 7439-95-4, **Magnesium**, uses **7439-98-7**, Molybdenum, uses **7440-02-0**, Nickel, uses 7440-03-1, Niobium, uses 7440-20-2, Scandium, uses 7440-32-6, Titanium, uses **7440-47-3**, Chromium, uses 7440-50-8, Copper, uses 7440-55-3, Gallium, uses 7440-62-2, Vanadium, uses 7440-67-7, Zirconium, uses
RL: NUU (Other use, unclassified); USES (Uses)
(addition of; method for production of **hydrogen** and apparatus for supply of same)

IT 3251-23-8, Copper nitrate (Cu(NO3)2) 7699-43-6, Zirconium chloride oxide (ZrCl2O) 7779-88-6, Zinc nitrate (Zn(NO3)2) 7803-55-6, Ammonium vanadate (NH4VO3) 10108-73-3, Cerium nitrate (Ce(NO3)3) 10124-37-5, Calcium nitrate 10141-05-6, Cobalt nitrate (Co(NO3)2) 10361-93-0, Yttrium nitrate (Y(NO3)3) 10377-60-3 10377-66-9, Manganese nitrate (Mn(NO3)2) 12027-67-7, Ammonium molybdate ((NH4)6Mo7O24) 13138-45-9, Nickel nitrate (Ni(NO3)2) 13465-60-6, Scandium nitrate (Sc(NO3)3) 13473-90-0, Aluminum nitrate (Al(NO3)3) 13494-90-1, Gallium nitrate (Ga(NO3)3) 13548-38-4, Chromium nitrate (Cr(NO3)3) 21348-59-4, Niobium oxalate
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(addition of; method for production of **hydrogen** and apparatus for supply of same)

IT 10421-48-4, Iron nitrate (Fe(NO3)3)
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for production of **hydrogen** and apparatus for supply of same)

IT **1333-74-0P**, **Hydrogen**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of; method for production of **hydrogen** and apparatus for supply of same)

IT 1309-37-1, Iron oxide (Fe2O3), reactions 1317-61-9, Iron oxide (Fe3O4), reactions 1332-37-2, Iron oxide, reactions 7439-89-6, Iron, reactions 7732-18-5, Water, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; method for production of **hydrogen** and apparatus for supply of same)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Daihen Corp; JP 2002104801 A 2002 CAPLUS
(2) Daimler-Benz Aerospace Ag; JP 07-267601 A 1995 CAPLUS
(3) Daimler-Benz Aerospace Ag; DE 4410915 A1 1995 CAPLUS
(4) Daimler-Benz Aerospace Ag; EP 675075 A1 1995 CAPLUS
(5) Daimler-Benz Aerospace Ag; NO 9500487 A 1995 CAPLUS
(6) Iseki & Co Ltd; JP 03-267558 A 1991 CAPLUS
(7) Iseki & Co Ltd; JP 04-100518 A 1992 CAPLUS
(8) Nikon Corp; JP 11-322301 A 1999 CAPLUS
(9) Saban S A Societe Holdings; JP 30-871 B1 1955
(10) Suzuki, M; JP 52-078692 A 1977 CAPLUS
(11) Tamaura, H; JP 07-048127 A 1995 CAPLUS
(12) Tamaura, H; JP 2001270701 A 2001 CAPLUS
(13) Umano, S; JP 52-037595 A 1977
(14) Yahagi Seitetsu Kabushiki Kaisha; JP 55-042222 A 1980 CAPLUS

L127 ANSWER 7 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2002-089944 [12] WPIX
CR 2000-256739 [22]; 2001-040778 [05]; 2001-570843 [64]; 2003-521813 [49]
DNN N2002-066248 DNC C2002-027787
TI **Hydrogen storage** material production for **battery** electrode materials involves oxidizing **hydrogen storage** powder with controlled oxidation reaction.
DC E36 J06 L03 P41 X16
IN FETCENKO, M A; OVSHINSKY, S R; YOUNG, K
PA (OVON-N) OVONIC BATTERY CO INC; (FETC-I) FETCENKO M A; (OVSH-I) OVSHINSKY S R; (YOUN-I) YOUNG K
CYC 34
PI WO 2001091210 A1 20011129 (200212)* EN 33p H01M004-52
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
W: AU BR CA CN IN JP KR MX NO RU SG UA
AU 2001064737 A 20011203 (200221) H01M004-52
US 6461766 B1 20021008 (200269) H01M004-52
US 2003038197 A1 20030227 (200318) B02C023-34
EP 1293003 A1 20030319 (200322) EN H01M004-52
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
TW 531919 A 20030511 (200372) H01M004-04
CN 1443377 A 20030917 (200382) H01M004-52
JP 2003534637 W 20031118 (200401) 45p H01M004-38
BR 2001010983 A 20031230 (200409) H01M004-52
ADT WO 2001091210 A1 WO 2001-US16344 20010518; AU 2001064737 A AU 2001-64737 20010518; US 6461766 B1 CIP of US 1998-141668 19980827, US 2000-575313 20000519; US 2003038197 A1 Div ex US 2000-575313 20000519, US 2002-266193 20021007; EP 1293003 A1 EP 2001-939193 20010518, WO 2001-US16344 20010518; TW 531919 A TW 2001-111880 20010518; CN 1443377 A CN 2001-813072 20010518; JP 2003534637 W JP 2001-587503 20010518, WO 2001-US16344 20010518; BR 2001010983 A BR 2001-10983 20010518, WO 2001-US16344 20010518
FDT AU 2001064737 A Based on WO 2001091210; US 2003038197 A1 Div ex US 6461766; EP 1293003 A1 Based on WO 2001091210; JP 2003534637 W Based on WO 2001091210; BR 2001010983 A Based on WO 2001091210
PRAI US 2000-575313 20000519; US 1998-141668 19980827; US 2002-266193 20021007
IC ICM B02C023-34; H01M004-04; H01M004-38; H01M004-52
ICS B22F001-02; H01M004-26; H01M004-58
ICA C22C016-00; C22C019-00
AB WO 200191210 A UPAB: 20040205

NOVELTY - A **hydrogen storage** material is made by oxidizing a **hydrogen storage** powder with a controlled oxidation reaction.

USE - For making a **hydrogen storage** material useful in **battery** electrode materials, fuel cells, getters, heat pumps, and **storage** of **hydrogen** gas.

ADVANTAGE - Improves the quality of products with reduced manufacturing cycle time but without reducing the safety of their operations. It provides a unique surface or surface layer upon the plasticized material that requires reduced activation when formed into an **electrochemical hydrogen storage** electrode.

Dwg.0/5

FS CPI EPI GMPI
FA AB; DCN
MC CPI: E11-S; E31-A02; J06-B06; L03-E01B4C; L03-E04B
EPI: X16-B01; X16-C; X16-E01C1

L127 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:172960 CAPLUS
DN 132:211601
ED Entered STN: 16 Mar 2000
TI Procedure for repairing breaks and flaws in ceramic molded articles
IN Baecker, Michael; Bock, Joachim; Freyhardt, Herbert C.; Leenders, Andreas; Walter, Heribert; Ulrich, Martin
PA Aventis Research and Technologies GmbH and Co. KG, Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C04B035-00
ICS C04B041-00; C04B035-50
CC 57-2 (Ceramics)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19841925	A1	20000316	DE 1998-19841925	19980914
	WO 2000015581	A1	20000323	WO 1999-EP6677	19990910
	W: CA, CN, JP, KR, NO, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1115677	A1	20010718	EP 1999-947304	19990910
	EP 1115677	B1	20031112		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002524389	T2	20020806	JP 2000-570123	19990910
	AT 254094	E	20031115	AT 1999-947304	19990910
	US 6638568	B1	20031028	US 2001-787107	20010731
PRAI	DE 1998-19841925	A	19980914		
	WO 1999-EP6677	W	19990910		

AB A patching material which melts at a lower temperature and/or is fluid at a lower temperature than the material of the molded article is applied to the surface of the molded article on or near the flaw. The piece is then heated until the patching material is partly molten and flowable, filling the flaw or crack. The patching material consists of silicate ceramics, oxide ceramics, nitride or carbide ceramics, magnetic ceramic materials,

or ceramic supra-conductors and **contains** elements chosen from among **Mg**, Ca, Sr, Ca, **Sc**, Y, La, lanthanides, Zr, HF, Pt, Pd, Ag, Cu, Hg, Ag, Tl, Pb, Si, S, and O.

ST patching material ceramics; repair ceramics

IT Ceramics
(procedure for repairing breaks and flaws in ceramic molded articles)

IT Alkaline earth oxides
Rare earth metals, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(procedure for repairing breaks and flaws in ceramic molded articles)

IT 1306-38-3, Cerium oxide (CeO2), processes 1314-36-9, Yttrium oxide (Y2O3), processes 7439-91-0, Lanthanum, processes 7439-92-1, Lead, processes 7439-95-4, **Magnesium**, processes 7439-97-6, Mercury, processes **7440-05-3**, Palladium, processes **7440-06-4**, Platinum, processes 7440-20-2, Scandium, processes 7440-21-3, Silicon, processes 7440-22-4, Silver, processes 7440-24-6, Strontium, processes 7440-28-0, Thallium, processes 7440-50-8, Copper, processes 7440-65-5, Yttrium, processes 7440-67-7, Zirconium, processes 7440-70-2, Calcium, processes 7664-39-3, **Hydrogen** fluoride, processes 7704-34-9, Sulfur, processes 7782-44-7, Oxygen, processes 107539-20-8, Barium copper yttrium oxide
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(procedure for repairing breaks and flaws in ceramic molded articles)

L127 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:225488 CAPLUS

DN 130:284166

ED Entered STN: 12 Apr 1999

TI Catalysts and method for manufacture of synthesis gas by cracking of methanol

IN Hayakawa, Takashi; Suzuki, Kunio; Hamakawa, Satoshi; Takehira, Katsuomi; Shiosaki, Tatsuji; Ishii, Tomoko; Kumagaya, Mikio

PA Agency of Industrial Sciences and Technology, Japan; Sangyo Sozo Kenkyusho K. K.

SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C01B003-22
ICS B01J023-44; B01J023-63; B01J023-62; B01J023-656; B01J023-89

CC 49-1 (Industrial Inorganic Chemicals)
Section cross-reference(s): 51, 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11092101	A2	19990406	JP 1997-269266	19970916
	JP 3316559	B2	20020819		
PRAI	JP 1997-269266		19970916		

AB The catalysts are mixed oxides **containing** Mg, Pd, and ≥1 metals selected from Al, Sc, Cr, Fe, Ga, and Y. The oxides treated by reducing with H for converting Pd oxide to Pd may be used as the catalysts. Rh may be included in the oxides in stead of Pd. Methanol is cracked with the catalysts to give **H2** and CO. The catalysts

show high selectivity.
ST methanol cracking catalyst manuf **hydrogen**; **magnesium** mixed oxide catalyst cracking methanol; palladium mixed oxide catalyst cracking methanol; carbon monoxide manuf cracking methanol; rhodium mixed oxide catalyst cracking methanol; reforming methanol catalyst manuf **hydrogen**
IT Cracking catalysts
(mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)
IT Reduction
(of palladium oxide in rhodium oxide in mixed oxide catalysts; in preparation of mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)
IT **7440-05-3P**, Palladium, preparation **7440-16-6P**, Rhodium, preparation
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(catalyst component; mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)
IT 12022-52-5P, Iron **magnesium** rhodium oxide 222632-88-4P, Aluminum **magnesium** palladium oxide 222632-89-5P, **Magnesium** palladium **scandium** oxide 222632-90-8P, Chromium **magnesium** palladium oxide 222632-91-9P, Iron **magnesium** palladium oxide 222632-92-0P, Gallium **magnesium** palladium oxide 222632-93-1P, **Magnesium** palladium yttrium oxide 222632-94-2P, Aluminum **magnesium** rhodium oxide 222632-95-3P, **Magnesium** rhodium **scandium** oxide 222632-96-4P, Chromium **magnesium** rhodium oxide 222632-97-5P, Gallium **magnesium** rhodium oxide 222632-98-6P, **Magnesium** rhodium yttrium oxide
RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(catalysts; mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)
IT 630-08-0P, Carbon monoxide, preparation **1333-74-0P**, **Hydrogen**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)
IT 67-56-1, Methanol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)
IT 1314-08-5, Palladium oxide 12680-36-3, Rhodium oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of; in preparation of mixed oxide catalysts for manufacture of synthesis gas (**hydrogen** and carbon monoxide) by cracking of methanol)

L127 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:701815 CAPLUS
DN 127:333087
ED Entered STN: 07 Nov 1997
TI Catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride

IN Rinaldi, Francesco; Cuzzato, Paolo; Bragante, Letanzio
PA Ausimont S.p.A., Italy
SO Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM B01J023-26
ICS C07C017-20; C07C017-21
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 801980	A1	19971022	EP 1997-106154	19970415
	EP 801980	B1	20020911		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, LT, FI				
	JP 10113562	A2	19980506	JP 1997-97350	19970415
	US 5919728	A	19990706	US 1997-843356	19970415
	AT 223753	E	20020915	AT 1997-106154	19970415
	CA 2202856	AA	19971017	CA 1997-2202856	19970416
	CN 1177522	A	19980401	CN 1997-110592	19970417
	CN 1091651	B	20021002		
PRAI	IT 1996-MI732	A	19960417		
	IT 1997-MI655	A	19970321		

AB A fluorination catalyst, supported on AlF3 or fluorinated Al2O3, is based on an amorphous Cr(III) compound and on a compound of a metal selected from **Mg**, Ca, Sr, Ba, **Sc**, Ti and Zr with an atomic ratio Cr/other metal (50-1):1. The catalyst is prepared by impregnation of the support with an aqueous solution of soluble salts of Cr(III) and of the other metal followed by drying of the impregnated support, treatment with an inert gas and activation with anhydrous HF. The catalyst is suitable for fluorination of halogenated hydrocarbons, e.g., CF3CH2Cl in gaseous phase with HF.

ST fluorination halogenated hydrocarbon chromium catalyst; chromium **magnesium** catalyst fluorination halogenated hydrocarbon; fluorochloroethane fluorination chromium **magnesium** catalyst

IT Fluorination
(catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT Hydrocarbons, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(chlorofluorocarbons; catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT Fluorination catalysts
(chromium-based catalysts for fluorination of halogenated hydrocarbons)

IT Hydrocarbons, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluoro; catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT Hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(halo; catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT **7440-47-3D**, Chromium, compds., uses
RL: CAT (Catalyst use); USES (Uses)

(amorphous; catalyst for fluorination of halogenated hydrocarbons **containing**)

IT 7439-95-4, **Magnesium**, uses 7440-20-2, Scandium, uses 7440-24-6, Strontium, uses 7440-32-6, Titanium, uses 7440-39-3, Barium, uses 7440-67-7, Zirconium, uses 7440-70-2, Calcium, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst for fluorination of halogenated hydrocarbons **containing** chromium and)

IT 354-14-3, Ethane, 1,1,2,2-tetrachloro-1-fluoro- 354-21-2, HCFC 122 359-29-5, Fluorotrichloroethene
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT 306-83-2P, 1,1,1-Trifluoro-2,2-dichloroethane 354-33-6P, Pentafluoroethane 811-97-2P, 1,1,1,2-Tetrafluoroethane 812-04-4P, HCFC 123b 2837-89-0P, 1,1,1,2-Tetrafluoro-2-chloroethane
RL: IMF (Industrial manufacture); PREP (Preparation)
(catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT 7664-39-3, **Hydrogen** fluoride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT 75-88-7, 1,1,1-Trifluoro-2-chloroethane 127-18-4, Perchloroethylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

IT 359-10-4P, HCFC 1122
RL: BYP (Byproduct); PREP (Preparation)
(catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride with reduced formation of)

IT 1344-28-1, Alumina, uses 1344-28-1D, Alumina, fluorinated 7440-44-0, Carbon, uses 7784-18-1, Aluminum trifluoride
RL: CAT (Catalyst use); USES (Uses)
(catalyst support; catalyst for fluorination of halogenated hydrocarbons with **hydrogen** fluoride)

L127 ANSWER 11 OF 19 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1996-198389 [20] WPIX
DNC C1996-062572
TI **Hydrogen storage** material for **nickel** hydride **battery** - comprises **nickel** , titanium and zirconium , **magnesium** , iron , lithium , and **scandium.**
DC E36 J06 M26
PA (HONK-I) HON K
CYC 1
PI JP 08069796 A 19960312 (199620)* 6p H01M004-38
ADT JP 08069796 A JP 1994-238311 19940822
PRAI JP 1994-238311 19940822
IC ICM H01M004-38
ICS C01B003-00; C01G053-00; C22C014-00; C22C019-00; H01M004-24; H01M010-30
AB JP 08069796 A UPAB: 19960520
The **hydrogen storage** material has compsn: (A)a-B(b)-

Ni(c)-D(y)-M(x)-R(z) (where **Ni** = **nickel**; A = at least one of Ti, Zr, Hf, Y, V, Nb, Pb, Mg, Be, Ca; B = at least one of Mg, Al, V, Nb, Ta, Cr, Mn, Si, C, B, **Mo**; D = **W**, Fe, **Co**, Cu, Zn, Ag, Sb, Sn; M = Li, Ba, K, Rb, Cs, P, S, Sr, Ba; R = Sc, Y, La, Ce, Pr, Yb, rare earth elements; and a = 0.01-0.85, b = 0.02-0.85; c = 0.02-0.85; x = 0.01-0.30; y = 0-0.30; z = 0-0.12, and (sum of a, b, c, x, y and z) =1.00).

ADVANTAGE - The process provides **H2 storage** material which can be used for **Ni**-hydride **battery.**

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: E11-N; E11-S; E31-A02; J06-B06; M26-B

L127 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:761799 CAPLUS

DN 123:151638

ED Entered STN: 29 Aug 1995

TI Manufacture of precursors for cerium oxide-zirconia-based mixtures, the compositions obtained, their use for manufacturing catalysts for catalytic converters, and the catalysts obtained

IN Bonneau, Lionel; Chopin, Thierry; Touret, Olivier; Vilmin, Gabriel

PA Rhone-Poulenc Chimie SA, Fr.

SO Fr. Demande, 21 pp.
CODEN: FRXXBL

DT Patent

LA French

IC ICM C01G025-02
ICS C01F017-00; B01J021-06; B01J023-10; F01N003-10; B01D053-94

CC 59-3 (Air Pollution and Industrial Hygiene)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2714370	A1	19950630	FR 1993-15605	19931224
	FR 2714370	B1	19960308		
	CA 2178834	AA	19950706	CA 1994-2178834	19941220
	WO 9518068	A1	19950706	WO 1994-FR1489	19941220
	W: AU, BR, CA, CN, FI, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9513194	A1	19950717	AU 1995-13194	19941220
	AU 692207	B2	19980604		
	EP 735984	A1	19961009	EP 1995-904568	19941220
	EP 735984	B1	19980311		
	R: AT, BE, DE, ES, FR, GB, IT, SE				
	CN 1137784	A	19961211	CN 1994-194552	19941220
	CN 1039804	B	19980916		
	JP 09506587	T2	19970630	JP 1995-517803	19941220
	JP 3016865	B2	20000306		
	BR 9408361	A	19970826	BR 1994-8361	19941220
	AT 163905	E	19980315	AT 1995-904568	19941220
	ES 2117394	T3	19980801	ES 1995-904568	19941220
	ZA 9410256	A	19960206	ZA 1994-10256	19941222
	FI 9602586	A	19960620	FI 1996-2586	19960620
	US 5908800	A	19990601	US 1996-666352	19961003
PRAI	FR 1993-15605	A	19931224		

WO 1994-FR1489 W 19941220

AB The process comprises contacting a liquid mixture **containing** a Ce and Zr compound with a carbonate or bicarbonate at neutral or basic pH, and recovering and, optionally, calcining the precipitate The mixts. have pore volume ≥0.6 cm3/g, and retain their sp. surface area even after high-temperature calcination. Mixts. were prepared by mixing a Ce(NO3)3 solution with a ZrO(NO3)2 solution and contacting the mixture with a NH4OH-NH4HCO3 solution Addnl. the solns. may **contain** a compound selected from those of Al, Si, Th, **Mg**, **Sc**, Ga, Fe, Bi, Ni, Sn, Cr, B, and rare earth metals.

ST cerium zirconium oxide catalyst; catalytic converter cerium zirconium oxide

IT Catalysts and Catalysis
Exhaust gases
(cerium oxide-zirconia-based precursor mixture manufacture for catalysts for catalytic converters)

IT Carbonates, uses
Rare earth compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(cerium oxide-zirconia-based precursor mixture manufacture for catalysts for catalytic converters)

IT Reactors
(catalytic, cerium oxide-zirconia-based precursor mixture manufacture for catalysts for catalytic converters)

IT Carbonates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**hydrogen**, cerium oxide-zirconia-based precursor mixture manufacture for catalysts for catalytic converters)

IT 65453-23-8, Cerium zirconium oxide 167080-25-3, Cerium zirconium oxide (Ce0.7-1Zr0-0.3O2)
RL: CAT (Catalyst use); USES (Uses)
(cerium oxide-zirconia-based precursor mixture manufacture for catalysts for catalytic converters)

IT 1066-33-7, Ammonium bicarbonate 1336-21-6, Ammonium hydroxide 7429-90-5D, Aluminum, compds. 7439-89-6D, Iron, compds. 7439-95-4D, **Magnesium**, compds. **7440-02-0D**, Nickel, compds. 7440-20-2D, Scandium, compds. 7440-21-3D, Silicon, compds. **7440-29-1D**, Thorium, compds. 7440-31-5D, Tin, compds. 7440-42-8D, Boron, compds. **7440-47-3D**, Chromium, compds. 7440-55-3D, Gallium, compds. 7440-69-9D, Bismuth, compds. 10108-73-3, Cerium nitrate 12014-56-1, Ceric hydroxide 13826-66-9, Zirconyl nitrate 14475-63-9, Zirconium hydroxide
RL: TEM (Technical or engineered material use); USES (Uses)
(cerium oxide-zirconia-based precursor mixture manufacture for catalysts for catalytic converters)

L127 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:201955 CAPLUS

DN 116:201955

ED Entered STN: 16 May 1992

TI Iron-antimony-**containing** metal oxide catalyst composition and process for producing the same

IN Sasaki, Yutaka; Utsumi, Hiroshi; Miyaki, Kenichi

PA Nitto Chemical Industry Co., Ltd., Japan

SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM B01J023-88
CC 67-1 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 23, 45
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 476579	A1	19920325	EP 1991-115741	19910917
	EP 476579	B1	19941214		
	R: BE, DE, ES, GB, IT, NL				
	JP 04126548	A2	19920427	JP 1990-246305	19900918
	JP 3371112	B2	20030127		
	US 5139988	A	19920818	US 1991-761079	19910917
	ES 2068451	T3	19950416	ES 1991-115741	19910917
PRAI	JP 1990-246305	A	19900918		

AB An Fe-Sb-**containing** metal oxide catalyst (e.g., for oxidation ammoxidn., and oxidative dehydrogenation) composition comprising as essential components Fe, Sb, and ≥1 element selected from V, Mo, and W and a process for producing the same are disclosed. The composition is represented by empirical formula FeaSbbVcModWeQfRgPhOi, where Q represents ≥1 of Li, Na, K, Rb, Cs, Be, **Mg**, Ca, Sr, Ba, **Sc**, Y, La, Ce, Pr, Nd, Sm, Th, U, Ti, Zr, Hf, Nb, Ta, Cr, Mn, Re, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Zn, Cd, Hg, Al, Ga, In, Tl, Ge, Sn, and Pb; R represents ≥1 of B, As, Bi, and Se; and a, b, c, d, e, f, g, h, and i each represent an atomic ratio of the resp. element, wherein a is 5-15; b is 5-100; the sum of c, d, and e is 3-15, provided that (i) when the sum of c and e is 0, d/a >1, (ii) when the sum of c and e ≠ 0, (c + e)/a > 0.3; f is 0-15; the sum of g and h is 0-10, provided that when h ≠ 0, (c + d + e)/h >1; and i is a number of O atoms as determined corresponding to the oxides formed by combining the above components. The catalyst composition **contains** a crystalline Fe antimonte. The process comprises preparing a slurry essentially **containing** (i) crystalline Fe antimonate and (ii) ≥1 element selected from V, Mo, and W and optionally **contg** . (iii) ≥1 element selected from the group consisting of the catalyst components represented by Q, R, and P, drying the aqueous slurry, and calcining a dried material. The catalyst exhibits excellent activity and phys. properties. The process has improved reproducibility.

ST iron antimony oxide catalyst; oxidn iron antimony oxide catalyst; ammoxidn iron antimony oxide catalyst; oxidative dehydrogenation iron antimony oxide catalyst

IT Ammoxidation catalysts
Dehydrogenation catalysts
Oxidation catalysts
(iron-antimony-**containing** metal oxide preparation for)

IT 67-56-1, Methanol, reactions 108-88-3, Toluene, reactions
RL: USES (Uses)
(ammoxidn. of, iron-antimony-**containing** metal oxide catalyst preparation for)

IT 1303-86-2, Boron oxide, uses 1304-28-5, Barium oxide, uses 1304-56-9, Beryllium oxide 1304-76-3, Bismuth oxide, uses 1305-78-8, Calcium oxide, uses 1306-19-0, Cadmium oxide, uses 1309-48-4,

Magnesium oxide, uses 1310-53-8, Germanium oxide, uses 1313-59-3, Sodium oxide, uses 1314-11-0, Strontium oxide, uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1327-33-9, Antimony oxide 1332-29-2, Tin oxide 1332-37-2, Iron oxide, uses 1335-25-7, Lead oxide 1344-28-1, Aluminum oxide, uses 1344-70-3, Copper oxide 11098-99-0, Molybdenum oxide 11099-02-8, Nickel oxide 11099-11-9, Vanadium oxide 11104-61-3, Cobalt oxide 11113-77-2, Palladium oxide 11113-84-1, Ruthenium oxide 11113-88-5, Silver oxide **11113-93-2**, Uranium oxide 11118-57-3, Chromium oxide 11129-18-3, Cerium oxide 11129-60-5, Manganese oxide 11129-89-8, Platinum oxide 11130-29-3, Yttrium oxide 12024-21-4, Gallium oxide 12036-32-7, Praseodymium oxide 12057-24-8, Lithium oxide, uses 12136-45-7, Potassium oxide, uses 12624-27-0, Rhenium oxide 12627-00-8, Niobium oxide 12640-89-0, Selenium oxide 12645-46-4, Iridium oxide 12648-30-5, Neodymium oxide 12651-06-8, Samarium oxide 12651-21-7, Thallium oxide 12653-71-3, Mercury oxide 12672-71-8, Indium oxide 12680-02-3, Lanthanum oxide 12680-36-3, Rhodium oxide 12777-38-7, Arsenic oxide 13463-67-7, Titanium oxide, uses 18088-11-4, Rubidium oxide 20281-00-9, Cesium oxide 37200-34-3, Scandium oxide 37230-85-6, Hafnium oxide **37300-04-2**, Thorium oxide 39318-18-8, Tungsten oxide 39403-39-9, Gold oxide 59763-75-6, Tantalum oxide 61970-39-6, Osmium oxide
RL: CAT (Catalyst use); USES (Uses)
(metal oxide catalyst **containing**, for oxidation, ammoxidn., and oxidative dehydrogenation)

IT 74-90-8P, **Hydrogen** cyanide, preparation 100-47-0P, Benzonitrile, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, iron-antimony-**containing** metal oxide ammoxidn. catalyst preparation for)

L127 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:218087 CAPLUS
DN 116:218087
ED Entered STN: 31 May 1992
TI **Hydrogen**-absorbing anodes
IN Furukawa, Akio; Yonezu, Ikuro; Fujitani, Shin; Saito, Toshihiko
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C22C038-00
ICS C01B003-00; C22C014-00; C22C038-60; H01M004-24
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 03191040	A2	19910821	JP 1989-332325	19891220
JP 2925615	B2	19990728		
PRAI JP 1989-332325		19891220		

AB The anodes are prepared from alloys (Ti1-xMx)zFe1-yM1y, where M = Nb, Ta, V, rare earth element, and/or mixed rare earths; M1 = **Mg**, Ca, **Sc**, Y, La, Ce, Pr, Nd, Sm, Gd, Zr, Hf, V, Cr, Mo, W, Mn, Co, Ni, Cu, Ag, Zn, B, Al, Ga, In, C, Si, P, S, Ge, Sn, Pb, and/or Sb; x =

0.01-0.5, y = 0.01-0.5, and z = 0.7-1.5. Alkaline **hydrogen/metal batteries** using these anodes have high capacity.

ST **battery hydrogen** absorbing anode; **hydrogen** absorbing iron titanium anode; niobium **hydrogen** absorbing alloy anode; **magnesium hydrogen** absorbing alloy anode

IT Anodes
(**battery**, **hydrogen**-absorbing iron-titanium-based alloys for)

IT 1313-97-9, Neodymium oxide (Nd2O3) **7440-02-0**, Nickel, uses 7440-50-8, Copper, uses 7440-62-2, Vanadium, uses 7440-66-6, Zinc, uses 7440-74-6, Indium, uses 11149-64-7 98887-75-3
RL: USES (Uses)
(anodes from **hydrogen**-absorbing iron-titanium-based alloys coated with, for **batteries**)

IT 141203-72-7 141203-73-8 141203-74-9 141203-75-0 141203-76-1
141203-77-2 141203-78-3 141203-79-4 141203-80-7 141203-81-8
141203-82-9 141203-83-0 141203-84-1 141203-85-2 141203-86-3
141203-87-4 141203-88-5 141203-89-6 141203-90-9 141203-91-0
141203-92-1 141224-84-2 141224-85-3 141224-86-4 141224-87-5
141224-88-6 141224-89-7 141224-90-0 141224-91-1 141224-92-2
141224-93-3 141224-94-4 141224-95-5 141224-96-6 141224-97-7
141224-98-8 141224-99-9 141225-00-5 141225-01-6 141225-02-7
141225-03-8
RL: DEV (Device component use); USES (Uses)
(**hydrogen**-absorbing, anodes, for **batteries**)

IT **1333-74-0**, **Hydrogen**, uses
RL: USES (Uses)
(iron-titanium-based alloys **containing** absorbed, anodes, for **batteries**)

L127 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:103001 CAPLUS
DN 114:103001
ED Entered STN: 23 Mar 1991
TI Antimony-iron-phosphorus-**containing** metal oxide catalysts
IN Sasaki, Yutaka; Otani, Masato; Utsumi, Hiroshi; Morishita, Kazuo
PA Nitto Chemical Industry Co., Ltd., Japan
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM B01J027-185
ICS B01J027-188; B01J027-198; B01J023-84; B01J027-057
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 404529	A1	19901227	EP 1990-306700	19900620
	EP 404529	B1	19940914		
	R: DE, ES, FR, GB, IT, NL				
	JP 03026342	A2	19910204	JP 1989-159457	19890623
	JP 2950851	B2	19990920		
	US 5094990	A	19920310	US 1990-540729	19900620
	ES 2063920	T3	19950116	ES 1990-306700	19900620

PRAI JP 1989-159457 19890623

AB The title catalysts FeaSbbPcXdQeRfOg(SiO2)h (Q = Li, Na, K, Rb, Cs, Be, **Mg**, Ca, Sr, Ba, **Sc**, Y, La, Ce, Pr, Nd, Sm, Th, U, Ti, Zr, Hf, Nb, Ta, Cr, Mn, Re, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Zn, Cd, Hg, Al, Ga, In, Tl, Ge, Sn, and/or Pb; R = B, As, Bi, Sc, and/or Te; X = V, Mo, and/or W; a = 5-15; b = 5-100; c = 1-30; d, f = 0-10; e = 0-15, g = number necessary to satisfy valence requirements; h = 0-300; such that the atomic ratio P/Fe ≥ 0.3, atomic ratio P/Sb ≥ 0.1, and the atomic ratio of P/X ≥ 1 when d > 0), are useful for the oxidation, oxidative dehydrogenation, or ammoxidn. of alkenes, alcs., aldehydes, or alkyl-substituted aromatic hydrocarbons. These catalysts are especially useful for the production of acrylonitrile, methacrylonitrile, and HCN. Thus, a catalyst Fe12Sb20P4Mo1.5BiPb0.1O74.2(SiO2)60 was contacted with a mixture of O, NH3, and propylene at 460° for 5.0 s to produce acrylonitrile in 72.1% yield with 76.5% selectivity, and propylene conversion 94.3%. The catalysts had low attrition loss.

ST oxidative dehydrogenation catalyst manuf; oxidn catalyst manuf; ammoxidn catalyst manuf; alkene ammoxidn catalyst manuf; propylene ammoxidn manuf acrylonitrile; alc ammoxidn catalyst; aldehyde oxidn catalyst; alkyl arom hydrocarbon oxidn catalyst

IT Ammoxidation catalysts
Dehydrogenation catalysts
Oxidation catalysts
(antimony-iron-phosphorus-**containing** metal oxide compns., for conversions of alcs. or alkenes or aldehydes or alkylarom. hydrocarbons)

IT Nitriles, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by alkene ammoxidn., catalysts for)

IT Alcohols, reactions
Aldehydes, reactions
Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation or oxidative dehydrogenation or ammoxidn. of, catalysts for)

IT Aromatic hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkyl, oxidation or oxidative dehydrogenation or ammoxidn. of, catalysts for)

IT 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. by, of alkenes in presence of oxygen, nitriles from, catalysts for)

IT 115-07-1, Propylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. of, acrylonitrile from, catalysts for)

IT 67-56-1, Methanol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. of, **hydrogen** cyanide from, catalysts for)

IT 115-11-7, Isobutene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(ammoxidn. of, methacrylonitrile from, catalysts for)

IT 7429-90-5, Aluminum, uses and miscellaneous **7439-88-5**, Iridium, uses and miscellaneous 7439-91-0, Lanthanum, uses and miscellaneous 7439-92-1, Lead, uses and miscellaneous 7439-93-2, Lithium, uses and

miscellaneous 7439-95-4, **Magnesium**, uses and miscellaneous 7439-96-5, Manganese, uses and miscellaneous 7439-97-6, Mercury, uses and miscellaneous **7439-98-7**, Molybdenum, uses and miscellaneous 7440-00-8, Neodymium, uses and miscellaneous **7440-02-0**, Nickel, uses and miscellaneous 7440-03-1, Niobium, uses and miscellaneous 7440-04-2, Osmium, uses and miscellaneous **7440-05-3**, Palladium, uses and miscellaneous **7440-06-4**, Platinum, uses and miscellaneous 7440-09-7, Potassium, uses and miscellaneous 7440-10-0, Praseodymium, uses and miscellaneous 7440-15-5, Rhenium, uses and miscellaneous **7440-16-6**, Rhodium, uses and miscellaneous 7440-17-7, Rubidium, uses and miscellaneous 7440-18-8, Ruthenium, uses and miscellaneous 7440-19-9, Samarium, uses and miscellaneous 7440-20-2, Scandium, uses and miscellaneous 7440-22-4, Silver, uses and miscellaneous 7440-23-5, Sodium, uses and miscellaneous 7440-24-6, Strontium, uses and miscellaneous 7440-25-7, Tantalum, uses and miscellaneous 7440-28-0, Thallium, uses and miscellaneous **7440-29-1**, Thorium, uses and miscellaneous 7440-31-5, Tin, uses and miscellaneous 7440-32-6, Titanium, uses and miscellaneous 7440-33-7, Tungsten, uses and miscellaneous 7440-38-2, Arsenic, uses and miscellaneous 7440-39-3, Barium, uses and miscellaneous 7440-41-7, Beryllium, uses and miscellaneous 7440-42-8, Boron, uses and miscellaneous 7440-43-9, Cadmium, uses and miscellaneous 7440-45-1, Cerium, uses and miscellaneous 7440-46-2, Cesium, uses and miscellaneous **7440-47-3**, Chromium, uses and miscellaneous **7440-48-4**, Cobalt, uses and miscellaneous 7440-50-8, Copper, uses and miscellaneous 7440-54-2, Gadolinium, uses and miscellaneous 7440-56-4, Germanium, uses and miscellaneous 7440-57-5, Gold, uses and miscellaneous 7440-58-6, Hafnium, uses and miscellaneous **7440-61-1**, Uranium, uses and miscellaneous 7440-62-2, Vanadium, uses and miscellaneous 7440-65-5, Yttrium, uses and miscellaneous 7440-66-6, Zinc, uses and miscellaneous 7440-67-7, Zirconium, uses and miscellaneous 7440-69-9, Bismuth, uses and miscellaneous 7440-70-2, Calcium, uses and miscellaneous 7440-74-6, Indium, uses and miscellaneous 7723-14-0, Phosphorus, uses and miscellaneous 7782-49-2, Selenium, uses and miscellaneous 13494-80-9, Tellurium, uses and miscellaneous
RL: USES (Uses)
(catalysts **containing** antimony and iron and metal oxides and, for oxidation or ammoxidn. of alcs. or aldehydes or hydrocarbons)

IT 7439-89-6, Iron, uses and miscellaneous
RL: USES (Uses)
(catalysts **containing** antimony and phosphorus and metal oxides and, for oxidation or ammoxidn. of alcs. or aldehydes or hydrocarbons)

IT 7440-36-0, Antimony, uses and miscellaneous
RL: USES (Uses)
(catalysts **containing** iron and phosphorus and metal oxides and, for oxidation or ammoxidn. of alcs. or aldehydes or hydrocarbons)

IT 126-98-7P, Methacrylonitrile
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by isobutene ammoxidn., catalysts for)

IT 74-90-8P, **Hydrogen** cyanide, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by methanol ammoxidn., catalysts for)

IT 107-13-1P, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by propylene ammoxidn., catalysts for)

L127 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:630279 CAPLUS
DN 109:230279
ED Entered STN: 24 Dec 1988
TI Manufacture of ethanol from synthesis gas
IN Arimitsu, Satoshi; Shikakura, Koichi; Saito, Toshihiro; Tanaka, Kazuaki
PA Agency of Industrial Sciences and Technology, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C031-08
ICS B01J023-72; B01J023-80; B01J023-86; B01J023-89; C07C029-15
ICA C07C027-06
CC 23-7 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63162639	A2	19880706	JP 1986-307854	19861225
	JP 01003857	B4	19890123		
PRAI	JP 1986-307854		19861225		

AB Ethanol is manufactured by the reaction of CO and **H2** in the presence of a catalyst **containing** Rh, Li, Cu, and ≥1 of Ir, **Sc**, **Mg**, Y, Yb, Lu, V, and Cr on a support and a catalyst **containing** Cu or Cu and Zn and/or Cr. Thus, feeding a 1.5:1 (volume) **H2** and CO mixture at flow rate 50 L/h through a catalyst bed **containing** Rh-Li-Cu-Sc/SiO2 (upper layer, at 265°) and Cu-Zn/SiO2 (lower layer, at 275°) at 30 kg/cm2 gave 1.9% conversion of CO (to products other than CO2) with 75.0% selectivity to EtOH and EtOAc vs. 1.8% conversion of CO with 8.9, 52.8, and 18.1% selectivities to EtOH, AcH, and AcOH, resp., with a Rh-Li-Cu-Sc catalyst.

ST ethanol manuf synthesis gas; hydrogenation carbon monoxide **hydrogen**; rhodium lithium copper catalyst ethanol; iridium catalyst manuf ethanol; scandium catalyst manuf ethanol; **magnesium** catalyst manuf ethanol; yttrium catalyst manuf ethanol; ytterbium catalyst manuf ethanol; lutetium catalyst manuf ethanol; vanadium catalyst manuf ethanol; chromium catalyst manuf ethanol; zinc catalyst manuf ethanol

IT Hydrogenation
(of carbon monoxide to ethanol)

IT Hydrogenation catalysts
(rhodium and lithium and copper and other metals, with copper or copper and chromium and/or zinc, for carbon monoxide and **hydrogen**, ethanol from)

IT 7440-66-6, Zinc, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **containing** copper or copper and chromium, with rhodium and lithium and copper and other metals, for carbon monoxide and **hydrogen**, ethanol from)

IT **7440-16-6**, Rhodium, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **containing** lithium and copper and other metals, with copper or copper and zinc and/or chromium, for carbon monoxide and **hydrogen**, ethanol from)

IT 7439-93-2, Lithium, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)
(catalyst, **containing** rhodium and copper and other metals, with copper or copper and zinc and/or chromium, for carbon monoxide and **hydrogen**, ethanol from)

IT 7439-94-3, Lutetium, uses and miscellaneous 7439-95-4, **Magnesium**, uses and miscellaneous 7440-20-2, Scandium, uses and miscellaneous **7440-47-3**, Chromium, uses and miscellaneous 7440-62-2, Vanadium, uses and miscellaneous 7440-64-4, Ytterbium, uses and miscellaneous 7440-65-5, Yttrium, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **containing** rhodium and lithium and copper, with copper or copper and chromium and/or zinc, for carbon monoxide and **hydrogen**, ethanol from)

IT **7439-88-5**, Iridium, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **containing** rhodium and lithium and copper, with copper or copper and zinc and/or chromium, for carbon monoxide and **hydrogen**, ethanol from)

IT 7440-50-8, Copper, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **containing** rhodium and lithium and other metals, with copper or copper and zinc and/or chromium, for carbon monoxide and **hydrogen**, ethanol from)

IT 630-08-0, Carbon monoxide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of, with **hydrogen**, ethanol from, catalysts for)

IT **1333-74-0**, **Hydrogen**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation with, of carbon monoxide, ethanol from, catalysts for)

IT **1333-74-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation, of carbon monoxide to ethanol)

IT 64-17-5P, Ethanol, preparation
RL: PREP (Preparation)
(manufacture of, from synthesis gas, catalysts for)

L127 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:32092 CAPLUS

DN 110:32092

ED Entered STN: 21 Jan 1989

TI Contact resistance to undoped and phosphorus-doped hydrogenated amorphous silicon films

AU Kanicki, Jerzy

CS Thomas J. Watson Res. Cent., IBM Res. Div., Yorktown Heights, NY, 10598, USA

SO Applied Physics Letters (1988), 53(20), 1943-5
CODEN: APPLAB; ISSN: 0003-6951

DT Journal

LA English

CC 76-2 (Electric Phenomena)

AB An extensive systematic study of contact properties to as-deposited undoped and P doped hydrogenated amorphous Si (a-Si:H) in metal/a-Si:H diode configuration showed that the magnitude of the contact resistance can be adjusted to some degree by the proper choice of metal work

function. The film doping (or bulk resistivity) is the most important factor in controlling the value of contact resistance for a given metalization. The lowest contact resistance values for both undoped and doped films were achieved for Eu, Y, **Sc**, and **Mg**. Reasonable values for heavily doped films were also obtained for Ti, Ta, Mo, and Al contacts. A further decrease of contact resistance can be achieved by increasing the doping efficiency of the P doped layer.

ST silicon contact resistance doping; metalization contact resistance diode; work function contact resistance silicon

IT Metals, properties
RL: PRP (Properties)
(contact resistance of, on hydrogenated amorphous silicon films, work function in relation to)

IT Work function
(of metal, contact resistance to doped and undoped silicon in relation to)

IT Diodes
(Schottky, silicon, resistance of contacts in)

IT Electric resistance
(contact, of metals on amorphous hydrogenated silicon)

IT 7723-14-0, Phosphorus, properties
RL: PRP (Properties)
(contact resistance of amorphous hydrogenated silicon doped with)

IT **1333-74-0**, properties
RL: PRP (Properties)
(contact resistance of metals on amorphous silicon **containing**)

IT 7429-90-5, Aluminum, properties **7439-88-5**, Iridium, properties 7439-89-6, Iron, properties 7439-95-4, **Magnesium**, properties **7439-98-7**, Molybdenum, properties **7440-05-3**, Palladium, properties **7440-06-4**, Platinum, properties **7440-16-6**, Rhodium, properties 7440-20-2, Scandium, properties 7440-25-7, Tantalum, properties 7440-32-6, Titanium, properties 7440-33-7, Tungsten, properties **7440-48-4**, Cobalt, properties 7440-53-1, Europium, properties 7440-58-6, Hafnium, properties 7440-62-2, Vanadium, properties 7440-65-5, Yttrium, properties
RL: PRP (Properties)
(contact resistance of, on undoped and phosphorus doped hydrogenated amorphous silicon film, work function in relation to)

IT 7440-21-3, Silicon, properties
RL: PRP (Properties)
(contact resistance to undoped and phosphorus doped amorphous hydrogenated film of)

L127 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:636539 CAPLUS

DN 105:236539

ED Entered STN: 26 Dec 1986

TI Ohmic and quasi-ohmic contacts to hydrogenated amorphous silicon thin films

AU Kanicki, Jerzy; Bullock, Dan

CS Thomas J. Watson Res. Cent., IBM, Yorktown Heights, NY, 10598, USA

SO Materials Research Society Symposium Proceedings (1986), 70(Mater. Issues Amorphous-Semicond. Technol.), 379-86
CODEN: MRSPDH; ISSN: 0272-9172

DT Journal

LA English
CC 76-2 (Electric Phenomena)
AB Study of contacts properties to undoped and doped hydrogenated amorphous Si, has shown that ohmicity and contact quality are very dependent on the reactivity of the metal and the quality of the meatl/a-Si:H interface. For example, metals such as **Sc**, **Mg**, or Ti form exceptionally good ohmic (very low barrier height) contacts, while others like Al, Cu, Mo, or V form very poor quasi-ohmic contacts (average barrier height) to undoped films. In addition, metals such as Y, Ho, Hf, or Er create fair quasi-ohmic (low barrier height) contacts to undoped films, at room temperature The barrier height and the magnitude of c.d. can be adjusted to some degree not only by the proper choice of metal work function but also by changing material bulk resistivity or/and interface quality. Consequently, specific attention is devoted to those parameters that not only determine the quality of the ohmic contact but also the dominant conduction mechanism across the barrier.
ST amorphous silicon elec contact; contact hydrogenated amorphous silicon
IT Electric contacts
(to hydrogenated amorphous silicon thin films)
IT **1333-74-0**, uses and miscellaneous
RL: USES (Uses)
(elec. contacts to amorphous silicon thin films **containing**)
IT 7429-90-5, uses and miscellaneous 7439-95-4, uses and miscellaneous **7439-98-7**, uses and miscellaneous 7440-20-2, uses and miscellaneous 7440-32-6, uses and miscellaneous 7440-50-8, uses and miscellaneous 7440-52-0, uses and miscellaneous 7440-58-6, uses and miscellaneous 7440-60-0, uses and miscellaneous 7440-62-2, uses and miscellaneous 7440-65-5, uses and miscellaneous
RL: DEV (Device component use); USES (Uses)
(elec. contacts, to hydrogenated amorphous silicon thin films)
IT 7440-21-3, properties
RL: PRP (Properties)
(hydrogenated amorphous, elec. contacts to thin films of)

L127 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1986:218306 CAPLUS
DN 104:218306
ED Entered STN: 14 Jun 1986
TI Apparatus for continuous monitoring of **hydrogen** or water vapor concentration in a gas
IN Kato, Takayuki
PA Tokyo Yogyo Co., Ltd., Japan
SO Ger. Offen., 19 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM G01N027-46
CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 47
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3520908	A1	19851212	DE 1985-3520908	19850611
	JP 60263853	A2	19851227	JP 1984-120464	19840611
	GB 2161605	A1	19860115	GB 1985-13589	19850530

FR 2565690 A1 19851213 FR 1985-8493 19850605
FR 2565690 B1 19871002
PRAI JP 1984-120464 19840611

AB A sensor for monitoring the concentration of H or H2O vapor in a gas is claimed in which the sensing element comprises a test-tube-shaped sensor fabricated out of a solid electrolyte (e.g., a mixture of CeO2 and SrO to which ≥1 oxides of Y, **Sc**, Yb, Nd, Pr, **Mg**, and/or Zn may be added) with porous inner and outer electrodes (e.g., of Pt) covering essentially the entire inner and outer surfaces of the electrolyte. An electromotive force detector is connected to the outer electrode by means of a conductive sleeve through which the sensor passes, and to the inner electrode by a circular connector at the open end of the tube. In use, the sample gas is brought into contact with the outside of the tube (e.g., by inserting it into a chamber **containing** the sample) and a reference gas is flowed inside the tube. An extended pipe for introducing the reference gas and an outlet at the top of the tube may be used. This sensor avoids problems caused by unequal thermal expansion of the electrolytes and bodies of conventional sensors, and permits stable measurements to be made over long time periods.

ST **hydrogen** water vapor sensor; moisture detector

IT Gas analysis
(**hydrogen** or water vapor determination in, electrolytic sensor for)

IT **1333-74-0**, analysis 7732-18-5, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in gases, electrolytic sensor for)

IT **7440-06-4**, uses and miscellaneous
RL: USES (Uses)
(electrodes, for **hydrogen** or water vapor electrolytic sensor)

IT 1314-11-0, uses and miscellaneous
RL: USES (Uses)
(electrolyte based on cerium oxide and, **hydrogen** or water vapor sensor formed from)

IT 1306-38-3, uses and miscellaneous
RL: USES (Uses)
(electrolyte based on strontium oxide and, **hydrogen** or water vapor sensor formed from)

IT 1309-48-4, analysis 1314-13-2, analysis 11113-81-8 11130-29-3 12648-30-5 12651-43-3 37200-34-3
RL: ANST (Analytical study)
(electrolyte **containing**, **hydrogen** or water vapor sensor formed from)

=>